

Teacher Resource

China Space Race

Focus Questions

- 1. Discuss the BTN story as a class and record the main points of the discussion.
- 2. Which planet has China just landed a spacecraft on?
- 3. China is only the _____ country in the world to land a spacecraft on the red planet.
- 4. Which two countries began the space race?
- 5. In which decade did the space race begin?
 - a. 1950s
 - b. 1960s
 - c. 1970s
- 6. What was the name of the first artificial satellite?
- 7. Which country sent the first human to space?
- 8. What significant space exploration event happened in 1969?
- 9. Name a private company that has been working on its own space program.
- 10. What do you think is the future of space exploration?

Activity: Class Discussion

After watching the BTN China Space Race story, hold a class discussion using the following discussion starters. Use a mind map to record students' responses.

- What are some reasons for humans to explore space?
- What is the space race?
- Is space exploration important? Why or why not?
- What are the advantages and disadvantages of space exploration?
- Is it important for Australia to be involved in space exploration? Why or why not?
- How has space exploration affected people's lives?





EPISODE 14

25th May 2021

KEY LEARNING

Students will learn more about the history of space exploration and investigate a space mission in depth.

CURRICULUM

Science - Year 5

The Earth is part of a system of planets orbiting around a star (the sun).

Scientific knowledge is used to solve problems and inform personal and community decisions.

Science - Years 5 & 6

With guidance, pose clarifying questions and make predictions about scientific investigations.

Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions.

Activity: History of space exploration

Students will investigate the history of space exploration and present their research as a timeline, <u>infographic</u> or a <u>presentation</u>. Below are some key events in the history of space exploration

Sputnik, first artificial satellite launched.

1969
Apollo 11 Moon landing
Launch of the International Space Station.

- 1957 Sputnik, first artificial satellite launched into space
- 1961 Yuri Gagarin, first person to enter space
- 1969 Apollo 11, Moon landing
- 1990 Launch of Hubble Space Telescope
- 1998 Launch of International Space Station
- 2011 Curiosity launches to Mars
- 2019 First image of black hole released
- 2020 Perseverance launches to Mars

Further Investigation

- How has technology used in space exploration changed over time?
- Imagine if you were the first person to land on the Moon. Write a journal describing your experience including the challenges you face on the mission.
- How have advancements in space technology helped us on Earth? Research an invention which has
 come from the Apollo 11 mission, for example microchips, insulation, cordless tools, satellite
 television and water filters. Research why the technology was needed for the Apollo 11 mission and
 how the invention helps us in our day-to-day living on Earth now.
- What types of careers are there in space exploration?
- Why do we have an International Space Station?
- How will space exploration change in the future? Make a prediction about how space exploration will change in the future. Illustrate your prediction/s and provide an explanation.

Activity: Space Mission

Students will choose a space mission to explore in detail. Students can choose one of the space missions below or choose another mission.

- International Space Station
- Perseverance Rover
- Hubble Space Telescope
- Parker Solar Probe

Students can use the following questions to guide their research.

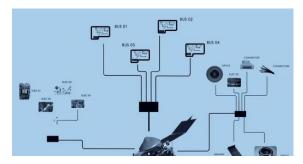
- Briefly summarise the mission.
- When did the mission take place?
- What was the purpose of the mission?
- Who was the crew? What were their roles?
- What did the mission discover?
- Which countries were involved in the mission?
- How has the mission helped us understand space?
- What were some challenges of the mission?
- Include photographs and diagrams in your research project.





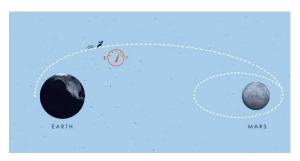
Activity: Design and build your own spacecraft

Students will imagine they are the chief designer for an important NASA mission. Use this <u>NASA activity</u> to guide students during the design and building process.



NASA Video #1

Before students design their satellites, <u>watch this video</u> as a class to find out what an engineer might to do to select and test the components and techniques needed to build a satellite like NASA's MAVEN spacecraft.

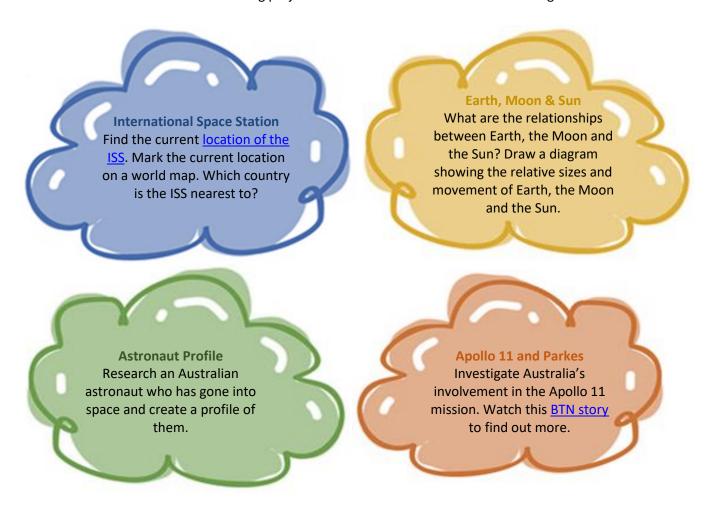


NASA Video #2

Before students design their satellites, <u>watch this video</u> to find out some of the steps NASA took during the design review process for the development of a new satellite.

Activity: Choose an Investigation

Students will choose one of the following projects to work on and then share their findings with the class.



Useful Websites

- China lands spacecraft on Mars Newsround
- China reports successful spacecraft landing on Mars, deploys rover in massive leap for space program – ABC News
- Space Race BTN
- Apollo 11 and Parkes BTN
- Space Future BTN
- Mars 2020 Mission Overview NASA
- <u>Solar System Exploration</u> NASA
- 60 Years and Counting The Future NASA
- <u>Science & Exploration</u> European Space Agency